NATIONAL WEATHER SERVICE INSTRUCTION 80-602

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Science and Technology

Research and Analysis

OPERATIONAL DEVELOPMENT PROJECT PLAN

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Type of Issuance: Initial

SUMMARY OF REVISIONS: None. This is the initial issuance.

SUMMARY: This instruction defines an operational development project plan and identifies references to aid in creating it. The operational development project plan defines a critical component of program control. This instruction provides guidance in creating an operational development project plan and identifies planning links to other functions as required by Policy Directive 80-6 *Research and Analysis for Improving Operations and Services*.

Signed by _____   October 14, 2004

John L. Hayes   Date

Director, Office of Science

and Technology

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Operational Development Project Plan

1.   <u>Introduction</u>. The operational development project plan defines the project management stages of planning, executing, and controlling the operational development phase of the Operations and Services Improvement Process (OSIP). The operational development project plan links to the program work breakdown structure. Based on requirements and scope planning, the plan will reflect the development approach best suited for science and technology improvements to the enterprise architecture. Planning associated with the operational development project plan includes identifying activities, sequencing, and estimating duration.

Figure 1 in Appendix A illustrates links between versions of the operational development project plan and related processes (e.g., Acquisition Planning, Risk Management). Project plan development occurs after definition of objectives and a requirements baseline is established. Project plan development may involve making trade-off decisions among requirements, risks, costs, acquisition approach, and resources. Alternatives may emerge through iterative review and analysis. The process is completed when a baseline project plan has been selected.

2.   <u>Purpose and Scope</u>. This instruction specifies a template for an operational development project plan and identifies references to aid in the creation of the project plan.

3.   <u>Program Product Standards</u>. This section defines the standard template for an operational development project plan. Each subsection below defines a component of an operational development project plan (Project Management, Systems Engineering Center Guidance, June 2003).

- History
- Objectives
- Assumptions
- Technical Approach
- Dependencies
- Roles and Responsibilities
- Resource Allocation
- Budget Constraints and Cost
- Schedule
- Deliverables
- Risk Analysis
- References
- Appendices

3.1   <u>History</u>. The history section contains a brief history or background of the project. Impacts on related programs and projects are identified. In the event that there are multiple related development efforts to be executed coincidentally, this section identifies related operational development project plans and potentially affected milestones.

3.2   Objectives. This section defines the objectives (short declarative statements) of the developmental effort and references the applicable operational, functional, and performance requirements.

3.3   Assumptions. This section defines the assumptions associated with this project. Assumptions might include whether the product or service is new or built upon an existing capability. Other assumptions might include the availability of specific development or test resources, or the cooperative assistance of another Government organization.

3.4   Technical Design Approach. This section describes the system design approach and the approach to training. In addition, this section contains a task-by-task description of how the project team intends to execute the major tasks.

3.5   Dependencies. This section identifies and illustrates, if any, linkages to other programs and projects. For example, any external systems to which the project will interface will be identified.

3.6   Roles and Responsibilities. This section identifies in either a graphical or tabular form the project roles and responsibilities by organization.

3.7   Resource Allocation. This section identifies the resources, people and/or equipment, required to complete the project within the budget and schedule constraints.

3.8   Budget Constraints and Cost. This section identifies the estimated costs given the budget and schedule constraints.

3.9   Schedule. This section identifies critical phases, tasks and activities, milestones, and deliverables. The task and activities identifies the work to be accomplished during each phase. It identifies the entrance and exit criteria for each milestone. Lists of potential milestones and deliverables are provided in Appendix B. Each project will select from this list as appropriate.

The following references should used to guide and support development of phases and milestones.

- Project Management, Systems Engineering Center Guidance, June 2003
- A Guide to the Project Management Body of Knowledge (PMBOK), 2000
- INCOSE Systems Engineering Handbook, 2001

3.10   Deliverables. This section identifies a list of deliverables that will be produced during the project.

3.11   Risk Analysis. This section identifies the applicable, technical performance, schedule, cost, and administrative/management risk.

3.12   References. This section lists key applicable references.

3.13   Appendices. Appendices contain the technical analyses associated with milestone and phase definition. They include activities and tasks associated with phases and milestones, sequencing, and dependencies. Critical path, trade-offs, and other analyses would be included in this section. Alternative sets of milestones and phases should be presented in the appendices along with an explanation.

4.   This instruction is supported by the linkages to other functions figure in Appendix A, the listing of potential milestones and deliverables in Appendix B, and the references in Appendix C.

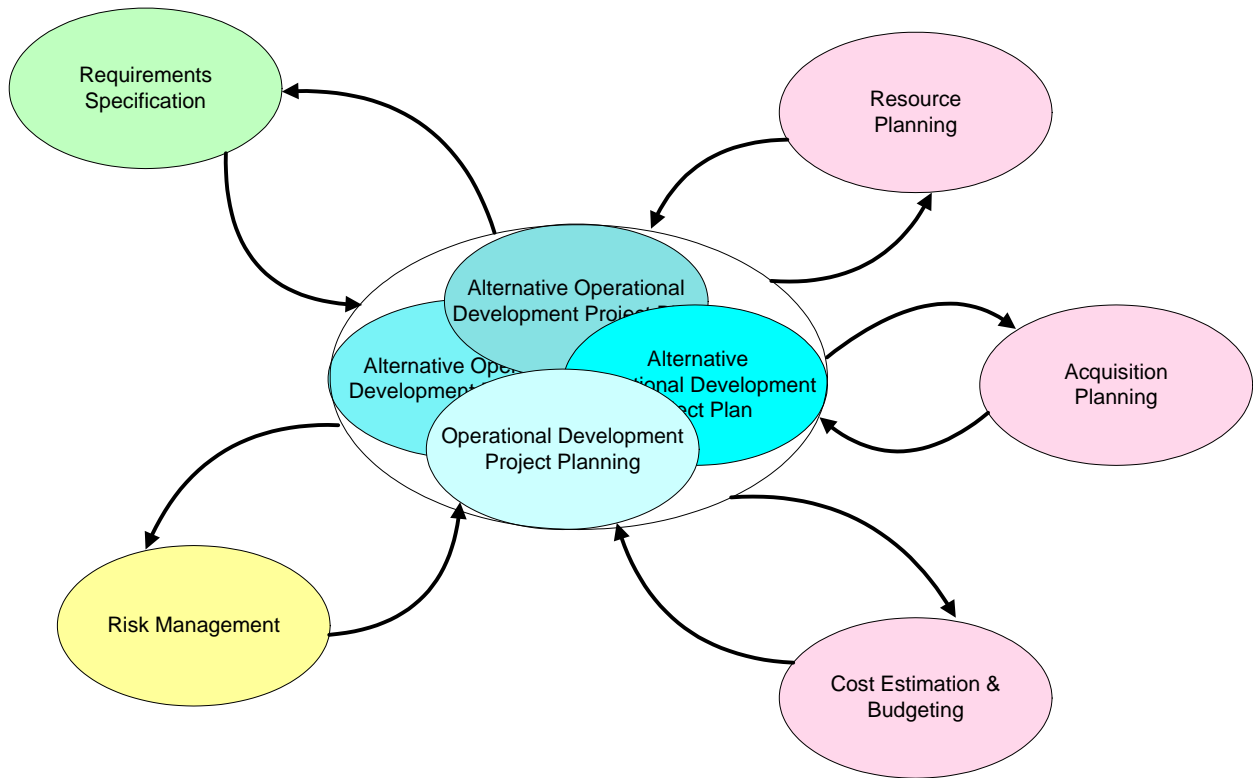**Appendix A – Operational Development Project Plan Linkages**

Figure 1.   Operational Development Project Plan Links to Other Functions

Appendix B – Milestones & Deliverables

References:
- Project Management, Systems Engineering Center Guidance, June 2003.
- *A Guide to the Project Management Body of Knowledge (PMBOK),* 2000.
- *INCOSE Systems Engineering Handbook*, 2001.

Milestones

Number		Description
M1		**Systems Requirements Review (SRR)**
M2		**Systems Design Review (SDR) / Design Approach Review (DAR)**
M3		**Software Specification Review (SSR)**
M4		**Hardware Specification Review (HSR)**
M5		**Program Management Review (PMR)**
M6		**Preliminary Design Review (PDR)**
M7		**Critical Design Review (CDR)**
M8		**Test Readiness Review (TRR)**
M9		**Design Qualification Test (DQT)**
M10		**Functional Configuration Audit (FCA)**
M11		**Physical Configuration Audit (PCA)**
M12		**Formal Qualification Review (FQR)**
M13		**Integration Acceptance Review (IAR)**
M14		**System Acceptance Test (SAT)**
M15		**Production Readiness Review (PRR)**
M16		**Limited Production**
M17		**Full Production**
M18		**Alpha Deployment**
M19		**Beta Deployment**
M20		**Full Deployment**

Deliverables

Number		Description
D1		Hardware Product Specification (HPS)
D2		Software Product Specification (SPS)
D3		Software Development Plan (SDP)
D4		Hardware Development Plan (HDP)
D5		System Security Management Plan (SSMP)
D6		Data Management Plan (DMP)
D7		Configuration Management Plan (CMP)
D8		Hardware Design Description (HDD)
D9		Software Design Description (SDD)
D10		Database Design Description (DDD)
D11		Data Flow Diagrams (DFDs)
D12		Impact Assessment (IA)
D13		System Test Plan (STP)
D14		Application Test Plan (ATP)
D15		Test Cases and Scripts
D16		Use Cases
D17		Acceptance Criteria
D18		Discrepancy Reports (DRs)
D19		Test Results / User Feedback
D20		Training Plan
D21		Transition / Transfer Plan
D22		Deployment and Assessment Plan
D23		Customer Service and Support Plan
D24		Integrated Operations, Maintenance, and Logistics Plan
D25		Reports: Status, Test, Reliability, Availability, and Wrap-up
D26		Software / Code: Programs, Modules, Library, and Make Files
D27		Hardware
D28		Interface Control Document (ICD)
D29		System Documentation: System/Subsystem Design Description
	D29A	Diagrams/ Drawing Package
	D29B	Data Model Documents (DMD)
	D29C	Version Description Document (VDD)
	D29D	User's Guide (UG)
	D29E	Systems Manager Manual (SMM)
	D29F	Release Notes (RN)
	D29G	Maintenance Documentation
	D29H	Inspection and Certification Records

Appendix C - References

1.   NWS Policy Directive 10-1, *Operations and Services Improvement Process* (in process).
2.   NWS Policy Directive 80-6, *Research and Analysis for Improving Operations and Services.*